Of eleven other specimens from White Plains on various dates in May and one in June, all the macropterous are females and the brachypterous males.

This species was taken on a damp and marshy meadow, by sweeping close to the ground, in places where the tall tree-like moss grows in clumps. The European species of *Acalypta* are generally found in moss. It is not very common, and is taken in twos and threes, principally in May. I have taken nearly full-grown nymphs under stones March 5 and 19, April 2, November 25 and December 5, which would indicate that the species overwinters as nymph.

DISPERSAL OF SOME ORTALIDÆ.

By Frederick Knab, Bureau of Entomology, U. S. Department of Agriculture.

The Ortalidæ have recently received comprehensive treatment by Hendel, four numbers of Wytsman's "Genera Insectorum" dealing with as many of the seven subfamilies. From this work it is apparent that a large proportion of the genera are peculiar to one or the other hemisphere, or to still more circumscribed faunal regions; indeed, one entire subfamily, the Richardiinæ, is confined to the New World. Species occurring in both hemispheres are very few and every case of such wide distribution is undoubtedly due to dispersal through the agency of man.

Three species are recorded in the Aldrich catalog as common to Europe and North America. Of these *Tritoxa rufipes* Meigen appears to be a doubtful case that needs further evidence. The other two are *Chrysomyza demandata* Fab. and *Seioptera vibrans* Linné. Two American ortalids, *Euxesta quadrivittata* Macq. and *Notogramma stigma* Fab., have been reported from the Hawaiian Islands and are undoubtedly established there. I am now able to report further the establishment of one Oriental ortalid in America, and that of two American species (one of them the *Notogramma stigma* just mentioned) in the Philippine Islands. Omitting the doubtful *Tritoxa rufipes,* it is interesting to note that the species that have obtained a footing beyond their

natural habitats are all scavengers for whom the activities of man produce especially favorable conditions. It seems best to discuss the species separately.

Notogramma stigma Fabr.—This striking fly is widely distributed through the warmer parts of America, it having been reported from the West Indies (Fabricius), South America (Wiedemann) and Cuba (Loew). The species occurs in the southern United States. There are specimens in the national collection from Dallas, Beeville and Brownsville, Texas. Recently the species has been reported from Hawaii by Severin and Hartung (Journ. Econ. Ent., Vol. 5, 1912, p. 448) and it appears to have been established there at least as far back as 1907; a specimen form Mr. O. H. Swezey bears the label, "Honolulu, March 2, 1907." The species has now become established in the Philippines as well. Philippine specimens, presumably from the island of Luzon, have recently been received from Mr. D. B. Mackie, of the Philippine Bureau of Agriculture.

But little information on the breeding habits of this fly is available. The specimen from Brownsville, Texas, according to the label, was reared by Mr. D. K. McMillan from *Solanum,* presumably the fruit. A series of specimens from the Panama Canal Zone was reared by Mr. A. Busck from the fruits of a species of palm, *Attalea.* Severin and Hartung in Hawaii (l. c.) have found the larvæ infesting green Chinese bananas that showed decay about the flower-scar.

Chrysomyza demandata Fabr.—This common European species was first reported for North America by C. W. Johnson in 1900, he having found specimens in Philadelphia as early as 1897 (Ent. News, Vol. 11, p. 609). The species is now distributed over practically the whole United States. Specimens are before me from the following localities: Philadelphia, Pa. (C. W. Johnson); Washington, D. C. (R. C. Shannon); Columbia, S. C. (F. Knab); Tallulah, La.; Brewster County, Tex. (Mitchell and Cushman); Mineralwells, Tex. (C. R. Jones); Dallas, Tex. (F. C. Bishopp); Yuma, Ariz. (H. Brown); Lehi, Utah (W. A. Hooker); Lindsay and Visalia, Cal.; Cheney, Wash. (N. D. Showalter).

In the Old World, according to Hendel, the species occurs

throughout Europe, in northern and east Africa, Cape Colony, Canary Islands, Seychelle Islands and in Hindostan.

The species is a scavenger and apparently by preference a manure breeder. A number of European observers have reported the larvæ as occurring in large numbers in horse-manure. Rondani states that they occur gregariously in the dejecta of cattle. Specimens recently received by the writer were taken, along with the following species, under conditions which indicate manure-breeding. Josef Mik reports the occurrence of the larvæ of this species in large numbers in fermenting clover, which had been subjected to a rude process of ensilage to destroy the weevils (*Apion*) infesting it (Wien. Ent. Zeit., Vol. 15, 1896, p. 245). C. N. Ainslie found the larvæ in decaying suckers of corn (maize) on the Pima Indian reservation in Arizona. The corn suckers had been previously infested by the caterpillars of *Chloridea obsoleta* and the galleries filled with excrement produced by these provided an excellent pabulum for the *Chrysomyza* larvæ (Proc. Ent. Soc. Wash., Vol. 13, 1911, pp. 118–119). In 1913, A. Weiss reported that in North Africa the larvæ of this species are destructive to the date palm, where the trees had been wounded to extract "palm wine."

"The process of collecting palm wine in North Africa is well known, but it was not known that *Chrysomyza demandata* lays its eggs in gashes made in this palm. The larvæ which hatch from these eggs hollow out the interior of the trunk, feed upon the pith and finally cause the death of the palm. We have seen a number of date palms in a dying condition from this cause." Mr. Weiss found the larvæ present in the palm trunks in thousands, the wet condition of the pith suiting them very well (Bull. Soc. Hist. nat. Afrique du Nord, Vol. 4, pp. 68–69). From the various observations just cited, it is apparent that the larvæ can thrive in a variety of decaying and fermenting substances.

Chrysomyza ænea Fabr.—This species has made its appearance in the United States. It is a native of the Oriental region, where it is very widely distributed. It occurs also in eastern Africa and neighboring islands, and in Australia. Detailed records give Hindostan (Fabricius, Walker), Formosa, Java, Borneo, Malay Peninsula, Mauritius (Hendel), the Philippines (Bezzi), and

Hawaii (Grimshaw). The following Old World localities are represented by specimens in the U. S. National Museum: Honolulu, Hawaiian Islands, March 2, 1907 (O. H. Swezey) ; Island of Guam (D. T. Fullaway) ; Manila, Philippine Islands (Brunetti) ; Telec-Ayer, West Borneo (Brunetti) ; Lourenço Marquez, East Africa (C. W. Howard) ; Brisbane, Queensland (Dept. of Mines and Agriculture) ; Croydon, New South Wales.

As already stated, this species has now become established in at least one locality in the United States. Specimens were first submitted by Dr. B. H. Ransom, of the Department of Agriculture, on August 28, 1915, he having reared them from pupæ obtained from manure at Tallulah, Louisiana. Since then the Bureau of Entomology has caused a series of captures of flies to be made in the vicinity of Tallulah. Most of these catches were taken from mule barns, and nearly every such lot examined contained specimens of this species. Therefore there can be no doubt that the species is well established in this country. *Chrysomyza demandata* occurred in the same captures, but in smaller numbers. The two species evidently have very similar habits. Mr. O. H. Swezey, in Hawaii, has reared *Chrysomyza œnea* from maggots that were very abundant in a manure pile (Proc. Haw. Ent. Soc., Vol. 3, 1914, p. 12).

Chrysomyza œnea Fab.

Chrysomyza demandata Fab.

While the introduction of this species into the United States evidently is very recent, it appears from other material that it has been established for some time in tropical America. The National Museum possesses a series from Ceará, Brazil, sent by F. D. da Rocha in July, 1904. The species was therefore without much doubt established on the northeast coast of Brazil at that time. It seems altogether probable that the species is widely distributed in the American tropics, having, most likely, found its

way to Brazil by way of Panama and the West Indies. Occurring, as it does, only under special conditions, it would not be likely to fall into the hands of collectors.

Chrysomyza ænea much resembles in general appearance and coloration the more familiar *demandata*. It may be readily recognized by the peculiar venation, the first posterior cell being closed some distance before the margin; in *demandata* the same cell is narrowly open in the wing-margin. (See Figs. 1 and 2.)

Euxesta quadrivittata Macq.

Urophora quadrivittata Macquart, 1835, Hist. Nat. Dipt., Vol. 2, p. 456.
Euxesta annonæ Loew (not Fabricius), 1872, Monogr. No. Amer. Dipt., Vol. 3, 162, pl. 9, fig. 13.
Euxesta annonæ Grimshaw (not Fabricius), 1901, Fauna Hawaiiensis, Vol. 3, p. 44.
Euxesta annonæ Hendel (not Fabricius), 1909, Ann. Mus. Nat. Hung., Vol. 7, p. 155.
Euxesta annonæ Severin and Hartung (not Fabricius), 1912, Journ. Econ. Ent., Vol. 5, p. 448.

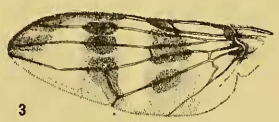
The species reported by Grimshaw and others from the Hawaiian Islands under the specific name *annonæ* is not the species originally characterized under that name by Fabricius. This will be very obvious from a comparison of such specimens with Wiedemann's excellent description of the Fabrician type (Aussereurop. zweifl. Ins., Vol. 2, 1830, p. 463). Apparently Loew is responsible for the transfer of the name *annonæ* to the species under present consideration, and it is only natural that subsequent workers have relied upon his comprehensive and detailed treatment of the genus. Hawaiian specimens before me agree excellently with American specimens from Cuba (type locality), Jamaica and Florida.

The species is a scavenger, so that its wide dissemination is to be expected. Severin and Hartung have reared the flies of this species and of *Notogramma stigma* from larvæ infesting decaying green Chinese bananas in the Hawaiian Islands.

The following species was received from the Philippine Islands, but its original habitat is undoubtedly somewhere on the west coast of tropical America.

Euxesta exilis, new species.

Wings with four transverse fasciæ, the third and fourth connected along both costa and posterior margin. Abdomen blue-black throughout; legs dark.



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Euxesta exilis Knab.

Female. Frons narrower than one eye, ferruginous red, the parafrontals dusted with white; ocellar triangle and vertical plates steel-blue; two or three pairs of cruciate bristles. Face and clypeus ferruginous and with pale opalescent blue bloom, the orbits dusted with white. Antennæ bright ferruginous, the third joint ovate, distally very slightly produced above but not forming a distinct angle; arista long, black. Palpi bright ferruginous. Thorax light metallic greenish blue, with a distinct bloom showing yellowish reflections in some lights. Scutellum shining black, smooth, without trace of pruinosity. Abdomen shining blue-black throughout. Front coxæ ferruginous, the others dark. Femora black, broadly ferruginous at apices; tibiæ dull ferruginous, tinged with black, particularly the posterior pair; tarsi dull ferruginous tinged with black, especially distally. Wings (Fig. 3) milky white, with four transverse black fasciæ extending to posterior margin, the first and second separated, the third and fourth connected narrowly along both costa and posterior margin; extreme base of wing whitish tinged with ferruginous; second fascia broad and much widened posteriorly, at costa occupying subcostal cell and tip of costal, its outer margin touching anterior crossvein; third fascia broadened posteriorly and inclosing posterior crossvein; last white interspace narrower than apical fascia; anterior crossvein about at middle of discal cell, which latter is slightly longer than last section of fourth vein; last section of the fourth vein distinctly bent upward in its outer half, the third vein in its opposite portion more gently bent downward, the submarginal cell thereby becoming broader in the margin, the first posterior much narrowed. Calypteres and halteres white.

Length: Body about 4 mm., wing 4 mm.

Philippine Islands, probably Manila, five specimens (Acc. no. 1779, Bureau of Agriculture, Philippine Islands).

Type: Cat. No. 20116, U. S. Nat. Mus.

The genus *Euxesta* has heretofore been considered peculiar to the Western Hemisphere, where it is represented by a large number of species. Hendel, in his Ulidiinæ (Genera Insectorum, 106 Fasc., 1910), lists no less than 54 species and many others are still undescribed. It is therefore safe to assume that the present species is of American origin. Quite likely it was introduced from Mexico in the early days when the Spaniards maintained regular communication between Acapulco and Manila. Botan-

ists have found that on the island of Luzon a large percentage of the introduced plants is from the Acapulco region; it is therefore not surprising that insects whose larvæ thrive in decaying fruit and the like, such as *Volucella obesa, Notogramma stigma* and this *Euxesta,* also have been introduced.

In all the specimens before me the wings show, within the transverse dark fasciæ, black blotches upon a pale gray ground, as shown in the figure. Finally, it may be added that in the national collection there is a series of a closely related but distinct species, still undescribed, from Aguascalientes, Mexico.

Seioptera vibrans Linné.—This species is generally distributed through Europe and in North America occurs over the northern part of the continent, ranging at least as far south as Washington, D. C. This fly occurs abundantly in certain localities; it has a characteristic habit of resting on the under surface of the leaves of trees and vibrating its wings. In spite of its wide distribution and frequent local abundance there are few observations on the life-history. Scholtz reared the flies in large numbers from a mixture of horse-manure and earth (Zeitschr. Ent., Breslau, 1849 and 1855). Sintenis, nearly forty years later, reported it as occurring regularly under the windows of manure-beds or cold-frames, thus confirming the record of Scholtz (quoted by Mik, Wien. Ent. Zeit., Vol. 6, 1887, p. 216). Karsch, upon information from a correspondent, reports the larvæ in destructive numbers burrowing in the stems of *Dianthus carthusianorum* (Berlin, Ent. Zeitschr., 1887, Sitzgsber., p. xxviii). No doubt this last record has its origin in a faulty observation; most probably the puparium sent to Karsch came from the manured earth and the damage to the plants was due to some other cause.

NOTE ON THE HABITS OF PSITHYRUS VARIABILIS CRESS.

By Theodore H. Frison, Champaign, Ill.

In the Canadian Entomologist for March, 1915, Mr. F. W. L. Sladen records finding *Psithyrus insularis* Sm. in the nest of *Bombus flavifrons* Cress. opened July 7, 1914, at Agassiz, British